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ABSTRACT

Obesity has reached epidemic proportions in the United States and threatens to impact the health and wellbeing of numerous children and adolescents. The number of overweight youth has more than doubled since the early 1970s. Today, approximately 13 percent of children and adolescents, nearly 5.3 million youth, are seriously overweight. Since most children and adolescents are enrolled in schools, schools present a unique opportunity to promote healthy eating and regular physical activity. States, school districts, and schools are addressing childhood obesity through multi-pronged strategies that include developing school nutrition and physical activity policies, implementing classroom instruction in nutrition and physical education, and creating a supportive school environment. States can help prevent and reduce obesity in school-age youth by developing policy and program guidelines for schools; strengthening physical activity requirements, standards, and programs in schools; implementing nutrition policies and education programs; fostering school and community partnerships that promote regular physical activity; engaging students, school faculty, families, and communities in promoting healthy eating and regular physical activity; and creating public awareness and education campaigns. (Author/SM)

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NGA Center for Best Practices
Issue Brief
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February 4,2003

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NGA Center for BEST PRACTICES

Issue Brief

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February 4, 2003

Preventing Obesity in Youth through School-Based Efforts

Summary
Obesity has reached epidemic proportions in the United States and threatens to impact the health and well-being of numerous children and adolescents. The number of overweight youth has more than doubled since the early 1970s. Today, approximately 13 percent of children and adolescents—nearly 5.3 million youth—are seriously overweight.[1, 2]

Since most children and adolescents are enrolled in schools, schools present a unique opportunity to promote healthy eating and regular physical activity. States, school districts and schools are addressing childhood obesity through multi-pronged strategies that include developing school nutrition and physical activity policies, implementing classroom instruction in nutrition and physical education, and creating a supportive school environment. States can help prevent and reduce obesity in school-age youth by:

- **Developing policy and program guidelines for schools.**
- **Strengthening physical activity requirements, standards and programs in schools.**
- **Implementing nutrition policies and education programs.**
- **Fostering school and community partnerships that promote regular physical activity.**
- **Engaging students, school faculty, families, and communities in promoting healthy eating and regular physical activity.**
- **Creating public awareness and education campaigns.**

Childhood Obesity

The increase in children that are overweight or obese is attributable to multiple factors including an increase in sedentary lifestyles and intake of high-caloric foods.[9] Environment, race/ethnicity, and gender also play a factor in determining whether children will have a higher likelihood of becoming obese. Some facts on obesity:

- Children with obese mothers, low family incomes, and lower cognitive stimulation are at greater risk than their peers for becoming obese.[10]
- Mexican American male children tend to have a higher prevalence of being overweight than non-Hispanic black and non-Hispanic white male children. Non-

Use of the Term *Obesity*
Body Mass Index (BMI) provides a guideline based on weight and height to determine *overweight* and *obese* for adults. For children and adolescents, obesity is calculated based on growth charts, physical development, gender, and age; and therefore, child measures do not have the same cut-points for BMI as adults. Based on current recommendations of expert committees, children with BMI values at or above the 95th percentile of the sex-specific BMI growth charts are categorized as overweight. To avoid stigma, the terms *at-risk* and *overweight* are used when referring to children and youth and correspond to *overweight* and *obese* for adults.

Despite this technical language, the use of *obesity* when referring to children is widely accepted. For simplicity and clarity, the terms *overweight* and *obesity*, and their variation have been used throughout this issue brief.

Source: Centers for Disease Control and Prevention, BMI Table for Children and Adolescents.

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Hispanic black female children tend to have a higher prevalence of being overweight when compared with non-Hispanic white and Mexican American female children.[11]

- Breastfeeding may reduce the likelihood of a child becoming obese.[12]
- Healthy eating and regular physical activity are established in children at young ages and are affected by factors including parents' eating habits.[13]

Overweight and obese children place significant health, social and economic costs on states. Youth who are obese are at an increased risk for obesity-related illnesses including heart disease, diabetes, high blood pressure, gallbladder disease, and osteoarthritis.[14] They are more likely than their peers to be absent from school, experience low self-esteem, and become obese adults.[15, 16] Costs due to obesity-related illnesses in children have more than tripled since the 1970s, from $35 million in 1979 to $127 million in 1999.[17]

The Role of Schools in Promoting Healthy Living

Children's health and well-being play a critical role in their ability to come to school ready to learn and in their overall academic achievement.[18] Schools have a unique opportunity to provide children and adolescents the skills and support they need to adopt healthy behaviors. They have regular access to children and youth — more than 95 percent of all children and adolescents aged 5-17 are enrolled in school.[19] Teachers and other school personnel can educate, support and reinforce students' health behaviors, including promoting healthy eating and regular physical activity. States can take several steps to encourage healthy lifestyles through school-based efforts such as:

- **Developing policy and program guidelines for schools.**
- **Strengthening physical activity requirements, standards and programs in schools.**
- **Implementing nutrition policies and education programs.**
- **Fostering school and community partnerships that promote regular physical activity.**
- **Engaging students, school faculty, families, and communities in promoting healthy eating and regular physical activity.**
- **Creating public awareness and education campaigns.**

Develop Policy and Program Guidelines for Schools

Many states are developing physical activity and nutrition guidelines and recommendations for schools. In addition to using national research to inform policy, some states are supporting state-level research to determine the status of diet and physical activity in youth, and craft policy recommendations.

In **California**, the Public Health Institute and the California Department of Health Services conducted a survey of California adolescents, ages 12 to 17 years, to gather information on adolescents' diet and physical activity. The results of the study formed the basis of policy recommendations for improving the health status of California adolescents that were highlighted in the report, "California Teen Eating, Exercise, and Nutrition Survey."[20]

The **Kentucky** State Department of Education is in the final stages of crafting a "Comprehensive Plan for Coordinated School Health" that provides objectives and activities that support schools in developing coordinated school health programs. Physical activity, nutrition education, and the decrease of tobacco usage are major areas of emphasis. The Lieutenant Governor's Task Force on Nutrition and Fitness introduced a bill during the last legislative session that would have required daily physical activity for elementary school students, limited the sale of certain foods during school hours, and established training requirements and continuing education for school food service directors and managers. The bill received widespread support from numerous stakeholder groups but did not pass.

Maine is using a significant percentage of its tobacco settlement funds to support "Healthy Maine Partnerships." Under this initiative, the state employs 54 school health coordinators located in school districts or schools in 31 regions of the state to promote physical activity, nutrition, and tobacco prevention and education programs and policies. In one site, nutrition activities have been so successful that area grocery stores have had to improve the variety of available fruits and vegetables, due to increased demand from families.

In **Michigan,** the Departments of Education and Community Health, and the Governor's Council on Physical Fitness, Health and Sports formed a Healthy Weight Advisory Group comprised of experts representing universities, health professional associations, schools and other key groups. The advisory group developed a consensus paper, "The Role of Michigan Schools in Promoting Healthy Weight" to provide practical guidelines and policy recommendations to school districts for promoting healthy weight for all students[21].

Strengthen Physical Activity Requirements, Standards, and Programs in Schools

Regular physical activity promotes numerous health, social and educational benefits in youth. It can help control weight, improve strength and endurance, reduce stress, and improve self-esteem.[22] It can increase concentration, reduce disruptive behavior and improve academic achievement, even when time for physical education reduces time spent on academics.[23] In fact, students who participate in interscholastic sports are less likely to smoke or use drugs, and are more likely to have high academic achievement and overall good conduct.[24] In spite of the benefits of regular physical activity, only one in three (35 percent) of students in grades 9-12 participate regularly in vigorous physical activity.[25]

National guidelines recommend that elementary school children receive 150 minutes per week of physical activity, and that middle school and high school students receive 225 minutes per week.[26] Nearly all states have some type of legislative mandate for physical activity. However, many of these mandates are broad and leave local school districts to determine such parameters as the number of hours students spend in physical education.

Education reform efforts have spawned the development of educational standards, which in nearly all states (i.e., 44 states) include state standards for physical education. Over 80 percent of the states with physical education standards follow national guidelines. A few states include physical education as part of state assessments and graduation requirements.[27] In spite of these efforts, physical education requirements continue to be eroded by academic requirements that place greater emphasis on subjects such as reading, writing and arithmetic.

Illinois is the only state in the nation that requires daily physical education for all students, grades kindergarten through 12. Certified physical education specialists teach physical education at the elementary, middle and high school levels. Daily time is to be commensurate with other subjects. At the secondary level, individual waivers are available, at local district discretion, for varsity athletics, marching band, and ROTC.

School Physical Activity Facts:

- Only 6-8 percent of senior, middle, and elementary schools provide daily physical education for the entire school year for students in all grades.
- Approximately 71 percent of elementary schools provide regularly scheduled recess for students in all grades kindergarten through 5.
- Only 49 percent of all schools offer intramural activities or physical activity clubs for students.
- 65 percent of high school students participate in vigorous physical activity on 3 or more days a week; 27 percent participate in moderate physical activity on 5 or more days a week.

Sources: Centers for Disease Control and Prevention (CDC), School Health Policies and Programs Study, 2000; CDC National Youth Risk Behavior Survey, 1999.

The **Maine** Move and Improve program, of Eastern Maine Medical Center and endorsed by the Governor's Council on Physical Fitness and Sports, is designed as a twelve-week, free physical activity program to reduce the risk of disease associated with physical inactivity. Originally initiated as a worksite wellness program, the effort has

grown to include schools, seniors and community groups. Participants commit to be physically active 30 minutes per day, four days a week for 10 of the 12 weeks of the program. Maine businesses donate incentive prizes including monetary prizes, and canoes, kayaks and mountain bikes.

Minnesota's state graduation standards include physical activity. High school students in most school districts have to complete physical activity standards in order to graduate. Students are asked to write independent fitness plans as part of the requirement.

In **Texas**, SB19 authorized the State Board of Education to require elementary school students to participate in daily physical activity. Implementation of the law resulted in recent Texas Education Agency (TEA) guidelines requiring elementary students to participate in at least 30 minutes of physical activity a day or 135 minutes per week. The legislation also requires that all elementary schools implement a coordinated school health program by 2007.

Implement Nutrition Policies and Education Programs

Proper nutrition is an important building block to a child's ability to learn and their overall health status. Children who are hungry are more likely to have behavioral, emotional and academic problems at school.[28] School food service programs contribute a significant amount of the nutrition that many children receive in a given day, particularly for those youth who are low-income and thus qualify for free or reduced-price breakfasts and lunches. Effective nutrition policies and education programs promote and reinforce healthy eating habits, create supportive environments, and teach youth the importance of eating right.

Schools face numerous challenges in assuring that youth eat healthy meals during the school day. Many school food service programs follow federal nutritional guidelines and must do so if they participate in federal school meal programs (i.e., the National School Lunch and School Breakfast Programs). However, efforts to provide nutritious foods in schools often compete with the wide availability of junk foods, the strong impact of advertising on youth's food choices, and diminishing school budgets that spawn private fund-raising through the sale of candy and other junk foods to fund athletic and extra-curricular activities.

Most schools have increased children's food options through the sale of foods in vending machines, school stores and snack bars.[29] Schools faced with dwindling education budgets have turned to "pouring rights contracts" to supplement school and food service budgets through the sale of soft drinks. Nearly 50 percent of schools have contracts with soft drink companies; 92 percent of these schools receive a specific percentage of soft drink sales receipts.[30]

School Food Service and Nutrition Facts:

- Nearly 93 percent of senior high schools operate vending machines, school stores, or snack bars; only 21 percent sell low fat yoghurt or fruits and vegetables in these venues.
- Nearly 20 percent of schools usually give students less than 20 minutes to eat lunch once they are seated.
- Only 2 percent of school-aged children meet the Food Guide Pyramid serving recommendations for all five major food groups.
- Overall, 56 to 85 percent of children consume soda on any given day.

Sources: Centers for Disease Control and Prevention, School Health Policies and Programs Study, 2000; U.S. Department of Agriculture, Foods Sold in Competition with USDA School Meal Programs: A Report to Congress, January 2001

To address the growing prevalence of overweight and obese youth, states and school districts are implementing policies to restrict or significantly limit the sale of junk food and soft drinks during school hours. Some states and school districts have found creative approaches that minimize the sale of soft drinks and junk foods in school vending machines while maintaining revenues. Finally, many states are implementing nutrition education curricula and increasing the qualifications of school nutrition staff.

In **California**, the school board of the *Los Angeles Unified School District* unanimously voted to ban the sale of soft drinks in all district schools, effective January 2004. In addition, the new policy requires that schools and the district not enter into any new contracts, or renew or extend contracts for non-approved beverages. Statewide, soft drink sales are prohibited in elementary schools and may be sold only after the end of the last

USDA Requirements for School Meal Programs
Schools that participate in the USDA school meal programs (i.e., school lunch, school breakfast and after-school snack programs):

- Must meet the Dietary Guidelines for Americans, which recommend that no more than 30 percent of an individual's calories come from fat, and less than 10 percent from saturated fat.
- Must provide one-third of the Recommended Dietary Allowances (RDA) of protein, Vitamin A, Vitamin C, iron, calcium and calories through school lunches and one fourth of the RDA requirements through school breakfasts.
- Must not sell "foods of minimal nutritional value (FMNV)" as defined by federal regulations, in food service areas during the school meal periods.
- Can sell FMNV outside of the food service area at any time during the school day. All other foods including foods and beverages from vending machines, school stores and snack bars can be sold anywhere on the school campus.

Source: U.S. Department of Agriculture, Food and Nutrition Service, National School Lunch Program and National School Breakfast Program at

lunch period in middle schools. The state requirement will go into effect in 2004, pending allocation of funds for increased meal reimbursement in the budget act of 2003.[31]

In **Minnesota**, *North Community High School* (Minneapolis) worked with its beverage vending company to provide healthier drink choices in the school's vending machines. As a result, soda machines available to students were reduced to one; several 100 percent fruit and vegetable juice, and water vending machines were added throughout the school; and students are now allowed to bring water to class.

West Virginia prohibits the sale or serving of candy, soft drinks, chewing gum or flavored ice bars during the school day. County school boards may permit the sale of soft drinks in high schools except during breakfast and lunch periods. In addition, all county school superintendents are required to designate a school nutrition program director. The director must meet specific nutrition education and training qualifications.

Foster School and Community Partnerships That Promote Regular Physical Activity

States are developing unique partnerships between schools, communities, park and recreation programs, and biking programs to promote regular physical activity for youth, school faculty, and community members. As a result, schools and communities are creating safe walking and bike paths, encouraging walking and biking to school, and promoting the use of school and community facilities for exercise during extended hours. In communities where safe physical activity is a concern because of violence, ill-equipped walkways, or a lack of parks, these efforts are critical to providing important options for physical fitness. After-school care programs, and community sports and recreation programs also play a critical role in providing youth access to sports, physical activity, and active play.

In **Minnesota**, the state education agency and health department in partnership with Be Active Minnesota, a non-profit organization, partnered to fund "walk-to-school" grants. Funds were provided directly to local schools for creating activities that promoted walking to school.

In **Texas**, the Public Health Promotion Program within the State Department of Health worked with schools and communities in selected regions of the state to establish walking trails to promote accessible physical activity in community parks and schools, and on school grounds. In addition, the Program fostered collaboration between local schools, agencies, community and worksite wellness staff, and others to encourage the use of school buildings and community facilities for physical activity.

Engage Students, School Faculty, Families, and Communities in Promoting Healthy Eating and Regular Physical Activity

Youth are an important voice and partner in making nutrition and physical activity changes in schools. Engaging youth in promoting and advocating for health and fitness not only contributes to improved policies in schools but also provides youth with an important learning tool. School faculty and parents provide

important reinforcement and can also benefit from a school's physical activity and nutrition program improvements.

In **California**, Project LEAN, a partnership between the California Department of Health Services and Public Health Institute, works with state and local physical activity and nutrition leaders across the state to promote healthy eating habits and regular physical activity. Food on the Run, one of Project LEAN's key programs, engaged low-income high school students in studying their school's school nutrition and physical activity policies and developing strategies to advocate for healthier alternatives. As a result, high school students created walking clubs and bike trails, and improved the nutritional value of foods served in their high school cafeterias.

In **Maine**, the Department of Education's state-sponsored School Site Health Promotion Wellness Conference is held for school wellness teams. In its 17th year, the conference prepares teams to promote activities that focus on providing support for teachers and other school staff to be healthy. Activities include health fairs, health screenings, Move and Improve, and stress management workshops. These efforts have resulted in numerous positive outcomes. For instance, some schools have their entire staff wearing pedometers to track their daily walking, aiming for 10,000 steps a day.

Create Public Awareness and Education Campaigns

Public awareness and education campaigns are a critical component of a multi-pronged statewide effort. For youth who are highly-influenced by media, these campaigns can become an important counterweight to junk food advertising and serve as an important motivator for physical activity and healthy eating. In addition to using strategies to reach youth, states are using innovative approaches to educate other key stakeholders such as school board members.

The VERB Campaign, launched by the U.S. Department of Health and Human Services to encourage physical activity and healthy behaviors for kids, is a driving force behind many states' more recent youth campaign efforts targeted at increasing physical activity. The multicultural media campaign is designed to promote healthier lifestyles in youth by reaching them through television, radio spots and the Internet. VERB focuses on physical activity, pro-social activity and an effort to reduce "screen time."

California Project Lean, with support from the California Department of Health Services, has partnered with the California School Boards Association to help prepare local school board members to better address school nutrition policy. The effort includes a set of tools that school boards can use to examine their school's nutrition policy, a series of school nutrition advertisements that can be placed in local school board magazines, and nutrition policy case studies from around the state.

In **Maine**, the Governor's Council on Physical Fitness and Sports promotes All Children Exercise Simultaneously (ACES), a one-day physical activity promotion program held the first Wednesday in May. ACES works with schools to promote public awareness and education about the importance of regular physical activity. Nearly 17,000 Maine school children participated in May 2002.

In **Minnesota**, efforts are underway to plan VERB events throughout the state in conjunction with the state's park and recreation association. Activities will infuse the VERB message through walking campaigns, basketball clinics, cross-country skiing, and other events that highlight the importance of regular physical activity. The Mall of America is also interested in partnering with the state to conduct VERB activities using its facilities and regular access to youth.

Conclusion

Today's youth live in a society where they are bombarded with advertisements for junk food, rewarded with food, and entertained by watching television. It is no surprise that the numbers of overweight and obese children and adolescents has reached epidemic proportions. Schools are a critical part of the solution because of their regular access to children and adolescents. Many states concerned with the obesity epidemic are

responding through innovative school-based policies and programs. However, schools are not the only partners needed in this effort. Health care providers, community based organizations, businesses and policymakers can also play a core role in helping to prevent and reduce the prevalence of overweight and obese children.

Selected Sources for Further Information and Guidance

Numerous federal agencies and organizations provide resources, technical assistance, and comprehensive guidelines to states for addressing overweight and obesity in youth through school-based strategies.

1. The American Alliance for Health, Physical Education, Recreation and Dance provides a summary of state physical education and activity policies in the report, "2001 Shape of the Nation Report: Status of Physical Education in the USA" at http://aahperd.org
2. The American Dietetic Association can be found at http://www.eatright.org
3. The American Obesity Association can be found at http://www.obesity.org
4. "Bright Futures in Practice: Physical Activity" and "Bright Futures in Practice: Nutrition", supported by the Health Resources and Services Administration, Maternal and Child Health Bureau, provide guidelines to health professionals for promoting physical activity and nutrition in infants, children and adolescents at http://www.mchb.hrsa.gov/
5. California Project LEAN can be found at http://www.caprojectlean.org
6. The Centers for Disease Control and Prevention, Division of Adolescent and School Health includes resources such as the School Health Index; comprehensive guidelines in areas including healthy eating and physical activity; and data from the School Health Policies and Programs, and the Youth Risk Behavior Surveillance studies at http://www.cdc.gov/nccdphp/dash/
7. The Centers for Disease Control and Prevention, Nutrition and Physical Activity Program includes resources on promoting physical activity, healthy eating, and addressing overweight and obesity at http://www.cdc.gov/nccdphp/dnpa/
8. The National Association of State Boards of Education has resources for state school boards including "Fit, Healthy and Ready to Learn: A School Health Policy Guideline. Part 1. Physical Activity, Healthy Eating and Tobacco Use Prevention" at http://www.nasbe.org/HealthySchools/fithealthy.mgi
9. The Office of the Surgeon General provides access to key reports including: "Physical Activity and Health" and "The Surgeon General's Call to Action to Prevent and Decrease Overweight and Obesity, 2001" at http://www.surgeongeneral.gov/sgoffice.htm
10. The U.S. Department of Agriculture provides comprehensive information about the child nutrition program at http://www.fns.usda.gov/cnd/Default.htm and school resources including the school kit "Changing the Scene: Improving the School Nutrition Environment" at http://www.fns.usda.gov/tn/
11. The U.S. Department of Health and Human Services' VERB Campaign can be found at http://www.verbnow.com

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Endnotes:

This brief was written by Karen VanLandeghem, consultant to NGA, and prepared under a cooperative agreement with the U.S. Department of Health and Human Services, Health Resources and Services Administration, Maternal and Child Health Bureau.

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